CLAIMS:

1. An agricultural tractor comprising:

a tractor frame arranged for attachment to an implement to be moved across the ground;

a pair of first ground wheels mounted on the frame at positions spaced transversely of the frame;

the first ground wheels being mounted on the frame at fixed angles parallel to each other and parallel to a center line of the frame;

a pair of second ground wheels mounted on the frame at positions spaced transversely of the frame;

each of the second ground wheels being mounted on a respective castor assembly providing, for the respective wheel:

a transverse axle of the wheel,

a pivot member defining a vertical pivot axis,

and a mounting link interconnecting the pivot member and the axle such that the axle is located below the pivot member and, in respect of a forward direction of movement, in a plane radial to the vertical pivot axis and rearwardly of the vertical pivot axis;

the pivot member being arranged to allow rotation of the mounting link around the pivot axis so that the tractor can move in a first direction of movement with the first wheels forward and the second wheels trailing and in a second direction of movement with the second wheels forward and the first wheels trailing;

each of the first ground wheels being driven by a respective drive motor which allows variable speed in both the first and second directions such that steering of the tractor is effected by a differential in speed between the first wheels with the second wheels following the steering in a castoring action;

and a pair of damper members each connected between the frame and a respective one of the castor assemblies so as to provide a damping force tending to restrict rotation of the respective second wheel about the respective vertical pivot axis;

the damping members being arranged such that the damping force varies at different angles around the vertical pivot axis and is at a higher value when the second wheels are parallel to the center line than when the second wheels are at right angles to the center line.

2. The tractor according to Claim 1 wherein the damping members are arranged such that the damping force is at a maximum when the second wheels are parallel to the center line.

3. The tractor according to Claim 1 wherein each damping member comprises a damping cylinder having a piston rod connection at one end and a cylinder connection at an opposed end.

4. The tractor according to Claim 1 wherein each damping member includes a lever which is arranged such that a mechanical advantage applied from the damping member through the lever varies as the lever pivots around the vertical pivot axis.

5. The tractor according to Claim 4 wherein the lever is arranged

such that it extends substantially in the plane radial of the vertical pivot axis.

6. The tractor according to cCaim 1 wherein the frame includes a transverse axle mounting each of the second wheels and wherein the damper member extends substantially along the axle pivotal about vertical axis through the axle.

7. The tractor according to Claim 6 wherein the damper member is arranged to extend substantially along the top of the axle.

8. The tractor according to Claim 7 wherein the damper member is attached to a lever at the top of the pivot member.

9. The tractor according to Claim 6 wherein the damper member has one end attached to a bracket bolted to the axle.

10. An agricultural tractor comprising:

a tractor frame arranged for attachment to an implement to be moved across the ground;

a pair of first ground wheels mounted on the frame at positions spaced transversely of the frame;

the first ground wheels being mounted on the frame at fixed angles parallel to each other and parallel to a center line of the frame;

a pair of second ground wheels mounted on the frame at positions spaced transversely of the frame;

each of the second ground wheels being mounted on a respective castor assembly providing, for the respective wheel:

a transverse axle of the wheel,

a pivot member defining a vertical pivot axis,

and a mounting link interconnecting the pivot member and the axle such that the axle is located below the pivot member and, in respect of a forward direction of movement, in a plane radial to the vertical pivot axis and rearwardly of the vertical pivot axis;

the pivot member being arranged to allow rotation of the mounting link around the pivot axis so that the tractor can move in a first direction of movement with the first wheels forward and the second wheels trailing and in a second direction of movement with the second wheels forward and the first wheels trailing;

each of the first ground wheels being driven by a respective drive motor which allows variable speed in both the first and second directions such that steering of the tractor is effected by a differential in speed between the first wheels with the second wheels following the steering in a castoring action;

and a pair of elongate damper cylinders each connected between the frame and a respective one of the castor assemblies at a position thereon spaced from the vertical pivot axis so as to provide a damping force tending to restrict rotation of the respective second wheel about the respective vertical pivot axis.

11. The tractor according to Claim 10 wherein each damper cylinder is attached to a lever which is arranged such that a mechanical advantage applied from the damping member through the lever varies as the lever pivots around the vertical pivot axis.

12. The tractor according to Claim 11 wherein the lever is arranged

such that it extends substantially in the plane radial of the vertical pivot axis.

13. The tractor according to Claim 10 wherein the frame includes a transverse axle mounting each of the second wheels and wherein the damper cylinder extends substantially along the axle pivotal about vertical axis through the axle.

14. The tractor according to Claim 13 wherein the damper cylinder is arranged to extend substantially along the top of the axle.

15. The tractor according to Claim 14 wherein the damper cylinder is attached to a lever at the top of the pivot member.

16. The tractor according to Claim 13 wherein the damper cylinder has one end attached to a bracket bolted to the axle.

17. An agricultural tractor comprising:

a tractor frame arranged for attachment to an implement to be moved across the ground;

a pair of first ground wheels mounted on the frame at positions spaced transversely of the frame;

the first ground wheels being mounted on the frame at fixed angles parallel to each other and parallel to a center line of the frame;

a pair of second ground wheels mounted on the frame at positions spaced transversely of the frame;

each of the second ground wheels being mounted on a respective castor assembly providing, for the respective wheel:

a transverse axle of the wheel,

a pivot member defining a vertical pivot axis,

and a mounting link interconnecting the pivot member and the axle such that the axle is located below the pivot member and, in respect of a forward direction of movement, in a plane radial to the vertical pivot axis and rearwardly of the vertical pivot axis;

the pivot member being arranged to allow rotation of the mounting link around the pivot axis so that the tractor can move in a first direction of movement with the first wheels forward and the second wheels trailing and in a second direction of movement with the second wheels forward and the first wheels trailing;

each of the first ground wheels being driven by a respective drive motor which allows variable speed in both the first and second directions such that steering of the tractor is effected by a differential in speed between the first wheels with the second wheels following the steering in a castoring action;

and a pair of damper cylinders each connected between the frame and a lever at a respective one of the castor assemblies so as to provide a damping force tending to restrict rotation of the respective second wheel about the respective vertical pivot axis;

the damping members and the levers being arranged such that the damping force varies at different angles around the vertical pivot axis due to changes in mechanical advantage as the lever pivots around the vertical pivot axis and is at a maximum value when the second wheels are parallel to the center line.

18. The tractor according to Claim 17 wherein the frame includes a

transverse axle mounting each of the second wheels and wherein the damper cylinder extends substantially along the axle pivotal about vertical axis through the axle.

19. The tractor according to Claim 18 wherein the damper cylinder is arranged to extend substantially along the top of the axle and the lever is arranged at the top of the pivot member.

20. The tractor according to Claim 19 wherein the damper member has one end attached to a bracket bolted to the axle.